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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/700,093
Filing Date: November 10, 2000
Appellant(s): HIRSCH ET AL.

Richard A. Gollhofer (Registration No. 31,106)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed June 11, 2010 appealing from the Office action mailed October 16, 2009.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims pending: 2 – 34.

Claims rejected: 2 – 34.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

U.S. Patent No. 5,903,568	Tanaka et al.	05-1999
WO 96/20547	Carretta et al.	07-1996
U.S. Patent No. 6,404,743	Meandzija	06-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

- Claims 17, 30 and 31 – 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,903,568 to Tanaka et al. [hereinafter Tanaka, previously cited] in view of WO 96/20547 [hereinafter Carretta].
- Claims 2 – 16, 18 – 29 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka and Carretta further in view of U.S. Patent No. 6,404,743 to Meandzija [previously cited].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 17, 30 and 31 – 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,903,568 to Tanaka et al. [hereinafter Tanaka, previously cited] in view of WO 96/20547 [hereinafter Carretta].

As to claim 17, Tanaka teaches a communication system for processing state information [event notification; col. 7, lines 3 – 11] in a management network having a number of management levels [multilayer management system; col. 6, lines 22 – 50], comprising:

an agent at a first management level storing state information associated therewith [lower-layer agent 107 gives an event notification N.sub.n-1 1 produced in the managed object M.sub.n-1 1; col. 10, lines 38 - 48];

a manager at a second management level above the first management level [upper-layer manager 101; col. 6, lines 22 – 50], sending a request message for performing state realignment to the agent [a lower-layer manager 106 for performing a service function in response to a request from the upper-layer manager 101, a plurality of lower-layer agents 107 for performing a service function in response to a request from the lower-layer manager 106; col. 6, lines 22 – 50 and col. 7, lines 3 – 11], the agent checking the state information with regard to deviations from a normal state [lower-layer agent 107 gives an event notification N.sub.n-1 1 produced in the managed object M.sub.n-1 1 to the lower-layer manager 106 in a step 401; col. 10, lines 45 - 48], and sending deviant state information of the agent indicating the deviations to the manager in response to the request message [Event notifications which correspond to the upper layer in the managed-object correspondence information database 105 are reported to the upper-layer agent 102 in a step 406; col. 10, line 48 – col. 11, line 18]. Although Tanaka teaches sending deviant state information of the agent, Tanaka does not specifically disclose sending only deviant state information of the agent indicating the deviations from the normal state to the manager in response to the request message.

However, Carretta teaches a communication system for state realignment of state information in a management network [realignment; p. 6, lines 2 – 5; p. 8, line 36 –

p. 9, line 3; p. 11, lines 1 – 16; p. 36, line 28 – p. 37, line 34] in a management network having a number of management levels [p. 1, lines 10 – 20 and p. 19, line 14 – p. 20, line 2], a manager sending a request message for performing state realignment to the agent [MANAGER module acts as a MANAGER which sends directives to AGENTS. In this case the directives consist of requesting an event report service or a recorded events report recovery service; p. 7, lines 26 – 36] after communication between said manager and said agent is established initially [state information is reported not only in the management system initialization step but immediately after each loss of alignment of the state information; p. 12, lines 10 – 13; p. 26, lines 6 – 14] or following a period during which communication was not guaranteed [ALIGNMENT RECOVERY, p. 7, lines 24 – 36; p. 11, lines 1 – 16; p. 36, line 28 – p. 37, line 34], an agent checking the state information of said agent with regard to deviations and [each value VMBF(i) is compared with a corresponding value DF(i), termed default, present in a default value memory DF, filled with said values during initialization, or with conventional values agreed by AGENT and MANAGER…the process reaches A8 only if in step A7 the value VMBF(i) is different from the corresponding default value DF(i); p. 37, lines 10 – 22; p. 11, lines 17 – 23] sending only deviant state information of the agent indicating the deviations from the normal state to the manager in response to the request message [sending of only the variable state values different from default is a sending procedure which allows economizing the state information to be sent to a MANAGER; p. 37, lines 34 – 36 and p. 38, line 32 – p. 39, line 6].

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Tanaka to incorporate the features of Carretta because this allows economizing the state information to be sent to a MANAGER so that the latter can recover its own alignment and the economy is very advantageous when the state of the managed subsystem is defined by a large number of variables [p. 37, line 35 – p. 38, line 2 of Carretta].

As to claim 30, Tanaka as modified teaches a method for processing state information [event notification; col. 7, lines 3 – 11 of Tanaka; and p. 6, lines 2 – 5; p. 8, line 36 – p. 9, line 3; p. 11, lines 1 – 16; p. 36, line 28 – p. 37, line 34 of Carretta] in a communication system by way of a management network having a number of management levels [multilayer management system; col. 6, lines 22 – 50 of Tanaka and p. 1, lines 10 – 20 and p. 19, line 14 – p. 20, line 2 of Carretta], comprising:

storing, at an agent of a first management level, state information associated with the agent [lower-layer agent 107 gives an event notification N.sub.n-1 1 produced in the managed object M.sub.n-1 1; col. 10, lines 38 - 48 of Tanaka];

sending, to the agent from a manager at a second management level [upper-layer manager 101; col. 6, lines 22 – 50 of Tanaka] above the first management level, a request message for performing state realignment [a lower-layer manager 106 for performing a service function in response to a request from the upper-layer manager 101, a plurality of lower-layer agents 107 for performing a service function in response to a request from the lower-layer manager 106; col. 6, lines 22 – 50 of Tanaka and col.

7, lines 3 – 11 of Tanaka and p. 7, lines 26 – 36 of Carretta] after communication between said manager and said agent is established initially [state information is reported not only in the management system initialization step but immediately after each loss of alignment of the state information; p. 12, lines 10 – 13; p. 26, lines 6 – 14 of Carretta] or following a period during which communication was not guaranteed [ALIGNMENT RECOVERY, p. 7, lines 24 – 36; p. 11, lines 1 – 16; p. 36, line 28 – p. 37, line 34 of Carretta];

comparing by the agent, the state information previously stored by the agent for deviation from a normal state [lower-layer agent 107 gives an event notification N.sub.n-1 1 produced in the managed object M.sub.n-1 1 to the lower-layer manager 106 in a step 401; col. 10, lines 45 - 48 of Tanaka and p. 9, lines 26 – 36 of Carretta]; and

sending, by the agent to the manager in response to the request message, only deviant state information indicating deviation from the normal state of the state information previously stored by the agent [p. 37, lines 10 – 22; p. 11, lines 17 – 23 and p. 37, lines 34 – 36 and p. 38, line 32 – p. 39, line 6 of Carretta].

As to claim 31, Tanaka as modified teaches a communication system [multilayer management system; col. 6, lines 22 – 50 of Tanaka and p. 1, lines 10 – 20 and p. 19, line 14 – p. 20, line 2 of Carretta] comprising:

an agent of a first management level that stores a state information associated with the agent [lower-layer agent 107 gives an event notification N.sub.n-1 1 produced

in the managed object M.sub.n-1 1; col. 10, lines 38 - 48 of Tanaka and p. 9, lines 26 – 36 of Carretta];

a manager at a second management level [upper-layer manager 101; col. 6, lines 22 – 50 of Tanaka] that sends a request message for performing state realignment to the agent [a lower-layer manager 106 for performing a service function in response to a request from the upper-layer manager 101, a plurality of lower-layer agents 107 for performing a service function in response to a request from the lower-layer manager 106; col. 6, lines 22 – 50 of Tanaka and col. 7, lines 3 – 11 of Tanaka and p. 7, lines 26 – 36 of Carretta] after communication between said manager and said agent is established initially [state information is reported not only in the management system initialization step but immediately after each loss of alignment of the state information; p. 12, lines 10 – 13; p. 26, lines 6 – 14 of Carretta] or following a period during which communication was not guaranteed [ALIGNMENT RECOVERY, p. 7, lines 24 – 36; p. 11, lines 1 – 16; p. 36, line 28 – p. 37, line 34 of Carretta];

wherein the agent compares the state information previously stored by the agent for deviation form a normal state [lower-layer agent 107 gives an event notification N.sub.n-1 1 produced in the managed object M.sub.n-1 1 to the lower-layer manager 106 in a step 401; col. 10, lines 45 - 48 of Tanaka] and sends deviant state information of the agent indicating the deviations from the normal state to the manager only in response to the request [p. 37, lines 10 – 22; p. 11, lines 17 – 23 and p. 37, lines 34 – 36 and p. 38, line 32 – p. 39, line 6 of Carretta].

As to claim 32, Tanaka as modified teaches the state information is a state of a resource [p. 17, lines 28 – 35 of Carretta].

As to claim 33, Tanaka as modified teaches the state includes representation of at least one of operational readiness [operational state; p. 17, lines 28 – 35 of Carretta], manageability, and use of the resource in the communication system [p. 2, lines 10 – 22 of Carretta].

Claims 2 – 16, 18 – 29 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka and Carretta further in view of U.S. Patent No. 6,404,743 to Meandzija [previously cited].

As to claim 2, Tanaka as modified does not specifically teach an administrative state.

However, Meandzija teaches utilizing state attributes selected from the group consisting of an operational state [operational state], an administrative state [an event forwarding discrimination group, which includes an administrative state, an operational state; column 11, lines 38 – 45] and a usage state [usage state 420; column 12, lines 29 – 36] as state information.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to apply the teaching of utilizing administrative state as state information as taught by Meandzija to the invention of Tanaka and Carretta because administrative state can be set by a manager and used to administratively prohibit an agent from use

and in conjunction with a community string, the administrative state can be used for concurrency control [col. 12, lines 8 – 12 of Meandzija].

As to claim 3, Tanaka as modified teaches the normal state is defined by values for the state attributes [state values and state transitions are as defined in the ITU-T X.731 standard; column 11, line 65 – column 13, line 33 of Meandzija] selected from the group consisting of an operational state, an administrative state, a usage state, an unknown state, an alarm status [value defined for the alarm status in the X.731 standard is a set of enumerated values; column 12, lines 54 – 65 of Meandzija], and an available status [value defined for the availability status in the X.731 standard is a set of enumerated values; column 12, line 65 – column 13, line 9 of Meandzija].

As to claim 4, Tanaka as modified teaches utilizing state attributes for characterizing an operational readiness [operational state 415 describes the operational state of the unit represented by the agent/subagent; column 12, lines 13 – 28 of Meandzija], manageability [administrative state 410 describes the administrative state of the unit represented by the agent/subagent; column 11, line 65 – column 12, line 2 of Meandzija] and use of a resource [availability status 435 describes-the availability status of the unit represented by the agent/subagent; column 12, line 65 – column 13, line 9 of Meandzija] supported by the agent in the communication system as state information.

As to claim 5, Tanaka as modified teaches utilizing status attributes, which specify for a resource supported by the agent in the communication system whether it is in an unknown state [unknown status describes the unknown status of the unit represented by the agent/subagent; column 13, lines 27 – 34 of Meandzija], in an alarmed state [alarm status 430 describes the alarm status of the unit represented by the agent/subagent; column 12, lines 54 – 65 of Meandzija] or in a state of availability [availability status 435 describes-the availability status of the unit represented by the agent/subagent; column 12, line 65 – column 13, line 9 of Meandzija], as state information.

As to claim 6, Tanaka as modified teaches sending by the manager in the request message a correlation information item for a correlation of the respective request with messages containing changed state information received by the agent [Event Forwarding Discriminator (EFD) Group 530 comprises EFD configuration information defining what types of events an EFD will transform into notifications, at what times of day it will do so, and to which managers it will send the notifications to; column 13, lines 48 – 55 of Meandzija].

As to claim 7, Tanaka as modified teaches sending by the agent in a message for starting the state realignment, a correlation information item for correlating the messages containing changed state information subsequently sent with the state realignment started in each case [once the agent generates an event as specified in the

Event table 515, it checks an EFD Table 535 to find an EFD that matches that event and specifies what kind of notification is to be generated, and to which manager that notification is to be sent; column 14, lines 8 – 15 of Meandzija].

As to claim 8, Tanaka as modified teaches sending the correlation information generated by the agent in the message or messages containing the changed state information [generating the event at the agent and communicating a notification regarding the event from the agent to the management station via the network; column 4, lines 55 – 65 of Meandzija].

As to claim 9, Tanaka as modified teaches sending by the manager a parameter to the agent and controlling the state realignment in dependence on the parameter [event information also defines EFD information that defines pre-conditions for communicating a notification of an event from the agent 230 to the management station 210 via the network 160; column 10, lines 57 – 67 of Meandzija].

As to claim 10, Tanaka as modified teaches sending by the manager a parameter and automatically initiating the state realignment [automatic schedule] by the agent utilizing the parameter [the agent may have an automatic schedule which defines time periods in which a notification may be provided for certain events; column 6, lines 13 – 21 of Meandzija].

As to claims 11 and 12, Tanaka as modified teaches providing a parameter by the manager with a parameter value which specifies a starting time [start time] and end time [stop time] for the automatic state realignment [scheduling function 540 includes specifications of a daily start and stop time and a weekly mask specifying when the EFD changes availability status from off-duty to available; column 14, lines 16 – 33 of Meandzija].

As to claim 13, Tanaka as modified teaches providing by the manager a parameter with a parameter value which specifies a time interval [time periods] for a repetition of the automatic state realignment [the agent may have an automatic schedule which defines time periods in which a notification may be provided for certain events; column 6, lines 13 – 21 of Meandzija].

As to claim 14, Tanaka as modified teaches providing by the manager a parameter with a parameter value which characterizes resources for which changed state information [specifies what type of notification] must be transmitted by the agent [Each EFD specifies what type of notification is to be sent for an event that has occurred in the agent; column 13, lines 55 – 67 of Meandzija].

As to claim 15, Tanaka as modified teaches providing, by the manager, a parameter [control status] with a parameter value that permits interruption [suspended] of a running state realignment [control status describes the control status of the unit represented by

the agent/subagent with the possible values of subjectToTest, partLocked, reservedToTest, suspended, and free; column 13, lines 8 – 19 of Meandzija].

As to claim 16, Tanaka as modified teaches sending, by the manager, the parameter to the agent in the request message [events processing module 224 is used to provide event information that is communicated to the agent to define pre-conditions for the agent to generate an event; column 10, lines 57 – 67 of Meandzija].

As to claim 24, Tanaka as modified teaches utilizing state attributes selected from the group consisting of an unknown state [unknown status describes the unknown status of the unit represented by the agent/subagent; column 13, lines 27 – 34 of Meandzija], an alarm status [alarm status 430 describes the alarm status of the unit represented by the agent/subagent; column 12, lines 54 – 65 of Meandzija], and an available status [availability status 435 describes-the availability status of the unit represented by the agent/subagent; column 12, line 65 – column 13, line 9 of Meandzija] as state information.

As to claims 18 – 23 and 29, these are system claims that correspond to method claims 2 – 5, 9, 10 and 24; note the rejection to claims 2 – 5, 9, 10 and 24 above, which also meets these system claims.

As to claims 25 – 28, these are rejected for the same reasons as claim 19 and 14 – 16 above.

As to claim 34, Tanaka as modified teaches the state [col. 12, lines 12 – 29 of Meandzija] is defined by a telecommunications industry standard [col. 11, lines 65 – col. 12, line 12 of Meandzija].

(10) Response to Argument

Appellant argues in substance that:

(1) “Despite the attempt to educate the Examiner on the meaning of the words "state realignment" in the art during the Interview on July 7, 2009, the October 16, 2009 Office Action continued to rely on U.S. Patent 5,903,568 to Tanaka et al. as the primary reference, even though neither of the words "state" and "realignment" appear therein. It is submitted that no valid prima facie obviousness rejection of the subject claims could use Tanaka et al. a primary reference when it has so little relevance to the subject matter of all of the independent claims.” (pp. 4 – 5).

(2) “This description of a "service function" is not equivalent to "state realignment" as known in the art. As discussed at the Interview on July 7, 2009, "state realignment" is required if states are stored in parallel in different locations, such as a manager and an agent in different management layers of a management network and are deemed for some reason to be no longer synchronized with each other.” (p. 5)

(3) “All the independent claims recite examples of when state realignment is necessary, "after communication between said manager and said agent is established initially or following a period during which communication was not guaranteed" (claim 17, lines 9-1 1 ; claim 30, lines 10-12; and claim 31, lines 7-8).” (p. 5)

(4) “Whatever occurs during "event notification" is irrelevant to both the claims and the "service function" that the lower-level manager 106 performs "in response to a request from the upper-layer manager 101" (Office Action, page 3, line 14), because the "event notification" does not appear to be performed "in response to a request" from anything. Rather, event notifications appear to be operations of the system disclosed by Tanaka et al. that are completely separate from responding to a request.” (p. 6)

(5) “Second, even if the teachings of Tanaka et al. regarding "event notification" were relevant to detecting "deviation(s) from a normal state" as part of "state realignment," the assertions on page 3, lines 17-19 of the October 16, 2009 Office Action overlook the fact that during state realignment an alarm state of a managed object would be transmitted if the value of the alarm state is "NO ALARM" and thus, reflects no deviation from its "normal state." Thus, it is submitted that the alarm forwarding illustrated in Fig. 8 of Tanaka et al. is not a technology which is suitable to reduce the amount of data needed to be exchanged for the purpose of state realignment.” (p. 6)

(6) “As a consequence, any prior art reference that does not address issues related to ‘state realignment’ is not particularly relevant to the claims which address the problem of mass data exchange during state realignment and which recite methods and

systems that are capable of significantly reducing the amount of data needed to be exchanged during 'state realignment.'" (p. 7)

(7) "It is submitted that the failure of Tanaka et al. to mention "state realignment" makes the combination of Tanaka et al. and Carretta et al. improper. Due to the lack of teachings in Tanaka et al. regarding "state realignment," one of ordinary skill in the art would not look to Carretta et al. for modification of Tanaka et al., or look to Tanaka et al. to expand on the teachings of Carretta et al. with respect to "state realignment."" (p. 7)

Examiner respectfully traverses Appellant's Arguments:

As to argument (1), although the Tanaka does not specifically recite the term "state realignment," as it teaches the concept of "state realignment". As best understood by the examiner, in light of the specification, a reasonable interpretation of "state realignment" is to "synchronize or update" the state information between two agents in different management levels (i.e. "At the end of these procedures, the state situation is updated again both in the OMC and in the NMCs and aligned with one another…realignment method can be limited to the updating of the state information between the agent and managers in two immediately adjoining management levels"; p. 12, lines 5 – 9 of applicant's specification). Similar to applicant's invention, Tanaka discloses updating state information between agents. Tanaka teaches storing states (information of managed objects) in parallel in different locations (see Fig. 3, where Upper-layer MIB 103 is stored in the upper layer and lower-layer MIBs 108 stored in the

lower layer; col. 6, lines 21 – 64). The Lower-layer agent 107 in Tanaka gives an event notification produced in the managed object to the lower-layer manager 106 in a step 401. Event notifications which correspond to the upper layer in the managed-object correspondence information database 105 are reported to the upper-layer agent 102 in a step 406 (col. 11, lines 5 – 18). The upper-layer agent 102 reflects the contents of the event notifications in the upper-layer MIB 103 in a step 407 (col. 11, lines 5 – 18). Therefore, the state (information of the managed object) in the upper-layer MIB 103 is updated (realigned or synchronized) with data from the lower-layer managed objects using the event notification.

In addition, the secondary reference (Carretta) discloses “state realignment” of state information in a management network [realignment is accomplished by the managed subsystem which sends to the manager its own state at the time of the loss of alignment; p. 6, lines 2 – 5; p. 8, line 36 – p. 9, line 3; p. 11, lines 1 – 16; p. 36, line 28 – p. 37, line 34].

As to argument (2), Tanaka teaches an operation that represents an operation request given to a managed object and the operation can be a request, response, or an event notification (col. 7, lines 3 – 10). These operations are the same as the service functions. Therefore, an event notification is a type of service function and the state information in the MIBs are synchronized in response to the event notification, which is a type of service function. Tanaka teaches storing states (information of managed objects) in parallel in different locations (see Fig. 3, where Upper-layer MIB 103 is

stored in the upper layer and lower-layer MIBs 108 stored in the lower layer; col. 6, lines 21 – 64). Event notifications which correspond to the upper layer in the managed-object correspondence information database 105 are reported to the upper-layer agent 102 in a step 406 (col. 11, lines 5 – 18). The upper-layer agent 102 reflects the contents of the event notifications in the upper-layer MIB 103 in a step 407 (col. 11, lines 5 – 18). When the upper-layer agent 102 reflects the contents of the event notification in the upper-layer MIB 103, the state (information of managed objects) in the upper-layer MIB 103 is updated (realigned or synchronized) with data from the lower-layer managed objects through the event notification.

As to argument (3), the Carretta reference was used to reject the argued limitations. Carretta teaches a communication system for state realignment of state information in a management network [realignment; p. 6, lines 2 – 5; p. 8, line 36 – p. 9, line 3; p. 11, lines 1 – 16; p. 36, line 28 – p. 37, line 34] in a management network having a number of management levels [p. 1, lines 10 – 20 and p. 19, line 14 – p. 20, line 2], a manager sending a request message for performing state realignment to the agent [MANAGER module acts as a MANAGER which sends directives to AGENTS. In this case the directives consist of requesting an event report service or a recorded events report recovery service; p. 7, lines 26 – 36] after communication between said manager and said agent is established initially [state information is reported not only in the management system initialization step but immediately after each loss of alignment of the state information; p. 12, lines 10 – 13; p. 26, lines 6 – 14] or following a period

during which communication was not guaranteed [ALIGNMENT RECOVERY, p. 7, lines 24 – 36; p. 11, lines 1 – 16; p. 36, line 28 – p. 37, line 34].

As to argument (4), Tanaka teaches an operation that represents an operation request given to a managed object and the operation can be a request, response, or an event notification (col. 7, lines 3 – 10). These operations are the same as the service functions. Therefore, an event notification is a type of service function and the state information in the MIBs are synchronized in response to the event notification, which is a type of service function. Tanaka teaches storing states (information of managed objects) in parallel in different locations (i.e. upper-layer MIB 103 which stores information of managed objects and a plurality of lower-layer MIBs 108 which store information of managed objects). The managed objects represent state information stored in parallel in different location (i.e. see Fig. 3, where Upper-layer MIB 103 is stored in the upper layer and lower-layer MIBs 108 stored in the lower layer; col. 6, lines 21 – 64). The Lower-layer agent 107 in Tanaka gives an event notification produced in the managed object to the lower-layer manager 106 in a step 401 (col. 10, lines 45 – 47). The managed-object correspondence information converter 104 searches for the managed-object instance in the lower layer and the corresponding managed-object instance in the upper layer, and also converts the event notification from the lower layer to a corresponding operation in the upper layer in a step 404 (col. 10, lines 48 – 67). The managed object correspondence information converter 104 decides that those event notifications which do not correspond to the upper layer in the managed-object

correspondence information database 105 are not required to be reflected in the upper layer in a step 405, and then finishes the event notification processing sequence. Event notifications which correspond to the upper layer in the managed-object correspondence information database 105 are reported to the upper-layer agent 102 in a step 406 (col. 11, lines 5 – 18). The upper-layer agent 102 reflects the contents of the event notifications in the upper-layer MIB 103 in a step 407 (col. 11, lines 5 – 18). Therefore, the state (information of the managed object) in the upper-layer MIB 103 is updated (realigned or synchronized) with data from the lower-layer managed objects using the event notification.

In addition, examiner notes that the office action also refers to Carretta to teach sending a request message for performing state realignment to the agent [MANAGER module acts as a MANAGER which sends directives to AGENTS. In this case the directives consist of requesting an event report service or a recorded events report recovery service; p. 7, lines 26 – 36]. For example, Carretta teaches a communication system for state realignment of state information in a management network [realignment; p. 6, lines 2 – 5; p. 8, line 36 – p. 9, line 3; p. 11, lines 1 – 16; p. 36, line 28 – p. 37, line 34] in a management network having a number of management levels [p. 1, lines 10 – 20 and p. 19, line 14 – p. 20, line 2], a manager sending a request message for performing state realignment to the agent [MANAGER module acts as a MANAGER which sends directives to AGENTS. In this case the directives consist of requesting an event report service or a recorded events report recovery service; p. 7, lines 26 – 36] after communication between said manager and said agent is established

initially [state information is reported not only in the management system initialization step but immediately after each loss of alignment of the state information; p. 12, lines 10 – 13; p. 26, lines 6 – 14] or following a period during which communication was not guaranteed [ALIGNMENT RECOVERY, p. 7, lines 24 – 36; p. 11, lines 1 – 16; p. 36, line 28 – p. 37, line 34], an agent checking the state information of said agent with regard to deviations and [each value VMBF(i) is compared with a corresponding value DF(i), termed default, present in a default value memory DF, filled with said values during initialization, or with conventional values agreed by AGENT and MANAGER…the process reaches A8 only if in step A7 the value VMBF(i) is different from the corresponding default value DF(i); p. 37, lines 10 – 22; p. 11, lines 17 – 23] sending only deviant state information of the agent indicating the deviations from the normal state to the manager in response to the request message [sending of only the variable state values different from default is a sending procedure which allows economizing the state information to be sent to a MANAGER; p. 37, lines 34 – 36 and p. 38, line 32 – p. 39, line 6].

As to argument (5), examiner notes that Tanaka does not disclose a “NO ALARM” alarm state and the claims do not recite a “NO ALARM” alarm state. Therefore, it is unclear what the appellants are referring to with reference to the “an alarm state of a managed object would be transmitted if the value of the alarm state is ‘NO ALARM’ and thus, reflects no deviation from its ‘normal state.’”

Examiner also disagrees with the allegation that “Tanaka et al. is not a technology which is suitable to reduce the amount of data needed to be exchanged for the purpose of state realignment”. Tanaka teaches a managed object correspondence information converter 104 that decides that those event notifications which do not correspond to the upper layer in the managed-object correspondence information database 105 are not required to be reflected in the upper layer in a step 405, and then finishes the event notification processing sequence (col. 11, lines 5 – 18). Only event notifications which correspond to the upper layer in the managed-object correspondence information database 105 are reported to the upper-layer agent 102 in a step 406. Tanaka reduces the amount of data exchanged during managed object synchronization by reporting only event notification which correspond to the upper layer in the managed-object correspondence information database.

As to argument (6), although the Tanaka does not specifically recite the term “state realignment,” as it teaches the concept of “state realignment”. Carretta discloses “state realignment” of state information in a management network [realignment is accomplished by the managed subsystem which sends to the manager its own state at the time of the loss of alignment; p. 6, lines 2 – 5; p. 8, line 36 – p. 9, line 3; p. 11, lines 1 – 16; p. 36, line 28 – p. 37, line 34]. As best understood by the examiner, in light of the specification, a reasonable interpretation of “state realignment” is to “synchronize or update” the state information between two agents in different management levels (p. 12, lines 5 – 9 of applicant’s specification). Similar to applicant’s invention, Tanaka

discloses updating state information between agents. Tanaka teaches storing states (information of managed objects) in parallel in different locations (see Fig. 3, where Upper-layer MIB 103 is stored in the upper layer and lower-layer MIBs 108 stored in the lower layer; col. 6, lines 21 – 64). The state (information of the managed object) in the upper-layer MIB 103 is updated (realigned or synchronized) with data from the lower-layer managed objects using the event notification (col. 10, lines 45 – 47 and col. 11, lines 5 – 18).

In addition, Carretta teaches a communication system for state realignment of state information in a management network [realignment is accomplished by the managed subsystem which sends to the manager its own state at the time of the loss of alignment; p. 6, lines 2 – 5; p. 8, line 36 – p. 9, line 3; p. 11, lines 1 – 16; p. 36, line 28 – p. 37, line 34] in a management network having a number of management levels [p. 1, lines 10 – 20 and p. 19, line 14 – p. 20, line 2]. Carretta also address the problem of mass data exchange during state realignment by sending only deviant state information of the agent indicating the deviations from the normal state to the manager ("sending of only the variable state values different from default is a sending procedure which allows economizing the state information to be sent to a MANAGER so that the latter can recover its own alignment"; p. 37, line 34 – 36). Therefore, all of the cited prior art are relevant to the claims.

As to argument (7), although the Tanaka does not specifically recite the term "state realignment," as it teaches the concept of "state realignment". As best

understood by the examiner, in light of the specification, a reasonable interpretation of "state realignment" is to "synchronize or update" the state information between two agents in different management levels (i.e. p. 12, lines 5 – 9 of applicant's specification). Similar to applicant's invention, Tanaka discloses updating state information between agents. Tanaka teaches storing states (information of managed objects) in parallel in different locations (see Fig. 3, where Upper-layer MIB 103 is stored in the upper layer and lower-layer MIBs 108 stored in the lower layer; col. 6, lines 21 – 64). The Lower-layer agent 107 in Tanaka gives an event notification produced in the managed object to the lower-layer manager 106 in a step 401. Event notifications which correspond to the upper layer in the managed-object correspondence information database 105 are reported to the upper-layer agent 102 in a step 406 (col. 11, lines 5 – 18). The upper-layer agent 102 reflects the contents of the event notifications in the upper-layer MIB 103 in a step 407 (col. 11, lines 5 – 18). Tanaka teaches realigning the state information between the upper-layer and lower-layer MIBs. Tanaka does not specifically disclose sending only deviant state information of the agent indicating the deviations from the normal state to the manager in response to the request message and performing state realignment after communication between said manager and said agent is established initially or following a period during which communication was not guaranteed. However, Carretta teaches a communication system for state realignment of state information in a management network [realignment; p. 6, lines 2 – 5; p. 8, line 36 – p. 9, line 3; p. 11, lines 1 – 16; p. 36, line 28 – p. 37, line 34], a manager sending a request message for performing state realignment to the agent [MANAGER module acts

as a MANAGER which sends directives to AGENTS. In this case the directives consist of requesting an event report service or a recorded events report recovery service; p. 7, lines 26 – 36] after communication between said manager and said agent is established initially [state information is reported not only in the management system initialization step but immediately after each loss of alignment of the state information; p. 12, lines 10 – 13; p. 26, lines 6 – 14] or following a period during which communication was not guaranteed [ALIGNMENT RECOVERY, p. 7, lines 24 – 36; p. 11, lines 1 – 16; p. 36, line 28 – p. 37, line 34], an agent checking the state information of said agent with regard to deviations and [each value VMBF(i) is compared with a corresponding value DF(i), termed default, present in a default value memory DF, filled with said values during initialization, or with conventional values agreed by AGENT and MANAGER…the process reaches A8 only if in step A7 the value VMBF(i) is different from the corresponding default value DF(i); p. 37, lines 10 – 22; p. 11, lines 17 – 23] sending only deviant state information of the agent indicating the deviations from the normal state to the manager in response to the request message [sending of only the variable state values different from default is a sending procedure which allows economizing the state information to be sent to a MANAGER; p. 37, lines 34 – 36 and p. 38, line 32 – p. 39, line 6]. One of ordinary skill in the art would look to Carretta et al. for modification of Tanaka et al. because sending of only the variable state values different from default is a sending procedure which allows economizing the state information to be sent to a MANAGER so that the latter can recover its own alignment (p. 37, line 34 – p. 38, line 2 of Carretta].

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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